

THE FUTURE OF THE U.S. NUCLEAR WEAPONS STOCKPILE

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Thank you. I want to talk about where we are heading with the nuclear weapons stockpile and the infrastructure that support it and how our actions support the President's goal of reducing nuclear weapons. In what I say today, I make two assumptions that not all of you will agree with. First, I assume that the United States will, for the foreseeable future, need to retain both nuclear forces and the capabilities to sustain and, if necessary, modernize those forces. I do not see any chance of the political conditions for abolition arising in my lifetime, nor do I think abolition could be verified if it were negotiated. Second, I see no conflict between our plans for our own nuclear weapons and our strong support for nonproliferation. I will explain why that is true in a moment.

President Bush has been a strong leader in nuclear policy, as he has in non-proliferation. The President made his position clear from the earliest days of the Administration. On 1 May 2001, at the National Defense University, he said:

"We can, and will, change the size, the composition, the character of our nuclear forces in a way that reflects the reality that the Cold War is over. I am committed to achieving a credible deterrent with the lowest-possible number of nuclear weapons consistent with our national security needs, including our obligations to our allies."

Remarkable progress has been made in fulfilling this commitment by reducing both the numbers of nuclear weapons and our reliance on them. Two specifics:

- ? The Moscow Treaty of May 2002 will reduce *operationally-deployed* strategic nuclear weapons to 1700 to 2200 by 31 December 2012, down from about 5300 as of the end of 2003. These levels, which would have been unthinkable when I negotiated START I, are far lower than many of us thought possible just a few years ago.
- ? In May 2004, the President took steps to reduce the total size of the U.S. nuclear stockpile - non-deployed as well as deployed. By 2012, the stockpile will be lower by nearly one-half from the 2001 level, resulting in the smallest stockpile since the Eisenhower administration. This represents roughly a factor of four reduction since the end of the Cold War.

These are remarkable accomplishments. But, like most of you, I believe that further reductions are both possible and desirable. The key to making those reductions lies in an important conceptual breakthrough made by the Administration's 2002 Nuclear Posture Review. That review recognized that other capabilities could substitute for functions traditionally assigned to nuclear forces. As a result, it was organized intellectually around a "New Triad" of

offenses, defenses, and the supporting R&D and manufacturing base. From the standpoint of the Department of Energy the recognition of the critical role of the industrial base was the most fundamental change, one that holds out the promise of additional reductions in the total stockpile.

The reduced stockpile the President approved in 2004 still retains a significant number of non-deployed weapons as a hedge against technical problems or geopolitical changes. As we began to implement the concepts of the Nuclear Posture Review, however, we recognized that if we could devise a truly responsive infrastructure we could eliminate much of that hedge. Once we demonstrate that we can produce warheads on a timescale in which geopolitical threats could emerge, we may no longer need to retain extra warheads to hedge against unexpected geopolitical changes. Once we can respond in a timely way to technical problems in the stockpile, we may no longer need to retain extra warheads as a hedge against such problems.

As we, and the Department of Defense, take the first steps on the path to a responsive nuclear infrastructure, we have been immensely aided by a concept first formalized last year of a Reliable Replacement Warhead or RRW. The RRW concept relaxes Cold War design constraints that maximized yield to weight ratios to allow us to design replacement components that are easier to manufacture, are safer and more secure, eliminate environmentally dangerous materials, and increase design margins, thus increasing reliability and reducing the chance we will ever need to resort to nuclear testing.

The word “transformation” is used or abused in Washington to cover many things. But, the combination of the Reliable Replacement Warhead and a truly responsive infrastructure - each enabled by the other - may genuinely be transformational. This transformation will build on the decade old Science Based Stockpile Stewardship Program. Stockpile stewardship is working. We are confident that the stockpile is safe and reliable, and there is no requirement at this time for nuclear tests. Each year, the Secretary of Energy and Secretary of Defense reaffirm this judgment in reporting to the President their annual assessment of the safety and reliability of the U.S. nuclear weapons stockpile.

Transformation will, of course, take time. We can change our declaratory policy in a day. We can make operational and targeting changes in weeks or months. In a year or so we can improve integration of nuclear and non-nuclear offense and of offense and defense.

In contrast, the infrastructure and the stockpile it can support both change far more slowly. Full infrastructure changes may take a couple of decades. A concrete example: If, as most of us assume, the Reliable Replacement Warhead requires pit manufacture, and if everything works as we hope, we might be able to produce forty pits a year starting early in the next decade. Greater production must await a restored pit production capability, which may not be available for at least 15 years. So, fully implementing the Reliable Replacement Warhead and the Responsive Infrastructure portion of the New Triad will take a while. But, it will be worth waiting for.

Let me take you forward 20 or 25 years when the Administration’s emerging vision for the nuclear weapons enterprise of the future has come to fruition. The deployed stockpile - almost certainly considerably smaller than today’s plans call for - has largely been transformed.

Reliable Replacement Warheads have relaxed warhead design constraints imposed on Cold War systems. As a result, they are more easily manufactured at fewer facilities with safer and more environmentally benign materials. These modified warheads have the same military characteristics, are carried on the same delivery systems, and hold at risk the same targets as the variants they replaced, but they have been re-designed for reliability, security, and ease of maintenance. Because of this, even though there is almost no one left in the complex who remembers a nuclear test, let alone has conducted one, confidence in the stockpile is high because of the RRW design with its very large margins and because of a deep understanding of nuclear phenomena from first principles enabled by Stockpile Stewardship and the high-technology tools that come with it.

The deployed stockpile is backed up by a much smaller non-deployed stockpile than today. The United States has met the Responsive Infrastructure objective that for a relatively minor problem, we be able to repair warheads and begin to redeploy them within one year. The elimination of dangerous and environmentally difficult materials like conventional high explosives and beryllium has made this possible and obviated the need for large numbers of spare warheads to hedge against reliability problems.

The world has not gotten more predictable in twenty-five years. We still worry about a hedge against geopolitical changes and attempts by others to instigate an arms race. But that hedge is no longer in aging and obsolete spare warheads but in the Responsive Infrastructure. Once again we have met the goal established in 2004 of being able to produce sufficient additional warheads well within the time of plausible geopolitical change.

Our Responsive Infrastructure can also produce weapons with different or modified military capabilities if required. The weapons design community that was revitalized by the RRW program can adapt an existing weapon within 18 months and design, develop, and begin production of a new design within 3-4 years of a decision to enter engineering development - goals that were established in 2004. Thus, if Congress and the President direct, we can respond quickly to changing military requirements.

Security remains important in this future world. But the transformed infrastructure has been designed with security in mind. More importantly, new, intrinsic features built into the growing number of Reliable Replacement Warheads have improved both safety and security. In short, the vision I am setting forth is of a world where a smaller, safer, more secure and more reliable stockpile is backed up by a robust industrial and design capability to respond to changing technical, geopolitical or military requirements.

This is not the only plausible future of course. But it is one we should strive for. It offers the best hope of achieving the President's vision of the smallest stockpile consistent with our nation's security. It provides a hedge against an inherently uncertain future. That is why we are embracing the vision of transformation. We should not underestimate the challenge of transforming the enterprise but it is clearly the right path for us to take.

The vision of our future nuclear weapons posture I have set forth is enabled by what we have learned from ten years of experience with science-based stockpile stewardship, from planning for and carrying out life extension programs for our legacy stockpile, and from coming

to grips with national security needs of the 21st century as laid out in the Nuclear Posture Review. I hope you find it coherent and compelling. I believe it is the right vision to guide our near term planning and to ensure the nation's long-term security.

But, is it the right future for our broader objectives? Some responsible critics of our policies have suggested that U.S. nuclear weapons R&D programs hamper our efforts to advance global nonproliferation. I disagree. The major U.S. non-proliferation objective is to prevent rogue states and terrorist groups from acquiring weapons of mass destruction and systems for their delivery. Our efforts to sustain and, if necessary, modernize U.S. nuclear forces do not increase incentives for *terrorists* to acquire such weapons - those incentives are already high and are unrelated to U.S. nuclear capabilities. Nor are they likely to have any impact on *rogue states*, whose proliferation activities march forward independently of the U.S. nuclear program.

Over the past decade and more we have seen very significant reductions in the numbers of U.S. (and Russian) nuclear weapons, reductions in the alert levels of nuclear forces, and the suspension of nuclear testing by the five nuclear weapons states. No new warheads have been deployed and there has been little U.S. nuclear modernization. There is absolutely no evidence that these developments have caused North Korea or Iran to slow down covert programs to acquire capabilities to produce nuclear weapons. Rather it is more plausible that such states are seeking such weapons, in part, to deter the United States from coming to the assistance of our friends and allies. They may be reacting more to U.S. conventional weapons superiority than to anything the United States has done, or is doing, in the nuclear weapons arena. Nor is there any reason to believe that the pace of nuclear proliferation in South Asia is driven by what the Russians or we do in our nuclear programs.

We should of course be concerned about how our actions could affect international support among the friends, allies and partners on whom we depend for strengthened nonproliferation commitments and programs. I am bothered by charges that our policies have harmed nonproliferation because our nonproliferation record is exceptionally good. Our nuclear posture and our nonproliferation policy are mutually supportive and entirely consistent with our obligations under Article VI of the NPT. In 1995, when the NPT was indefinitely extended, the United States reiterated its commitment under Article VI to work toward the ultimate goal of eliminating nuclear weapons and to general and complete disarmament. Remarkable progress has been made in fulfilling this commitment and reducing reliance on nuclear forces in our national security strategy. The nuclear arms race has, in fact, been halted. The United States has been reducing its nuclear forces and nuclear weapons stockpile dramatically, as I described earlier.

These accomplishments are helping to realize the President's vision of achieving the lowest possible number of nuclear weapons consistent with national security needs. They also demonstrate strong U.S. adherence to its nonproliferation commitments. Transforming the nuclear weapons complex to be more responsive will allow us to continue this trend while preserving our ability to respond to an uncertain world. We are committed to seizing this opportunity.

Thank you. I look forward to your questions.